What is claimed is:

1. An apparatus for automatically collecting, substantially simultaneously, a plurality of measured quantities of a powdered material and dispensing, substantially simultaneously, each of the plurality of measured quantities of the powdered material, the apparatus comprising:

(a) a plurality of collection cavities, each of said collection cavities comprising an inlet for fluid communication therein and a filter configured to prevent the powdered material from entering;

(b) a vacuum source, said vacuum source connected to each of the plurality of collection cavities via the inlet therein; and

(c) a control valve configured to establish or terminate fluid communication between the vacuum source and each of the plurality of collection cavities.

2. The apparatus of claim 1, wherein the volume of each of the plurality of collection cavities is dynamically adjustable.

3. The apparatus of claim 2, wherein the plurality of collection cavities are configured on a collection member such that when the collection member is registered with a multi-well vessel, each cavity of the plurality of collection cavities is positioned to dispense its corresponding quantity, of the plurality of measured quantities of the powdered material, into a corresponding well of the multi-well vessel.

4. The apparatus of claim 3, wherein the multi-well vessel comprises at least one of an 8-well format vessel, a 24-well format vessel, a 96-well format vessel, a 384-well format vessel, and a 1536-well format vessel.

5. The apparatus of claim 2, wherein each of the plurality of collection cavities is capable of holding between about $0.005cm^3$ and $2cm^3$ of the powdered material.

6. The apparatus of claim 2, wherein each of the plurality of collection cavities is capable of holding between about $0.01cm^3$ and $1cm^3$ of the powdered material.

7. The apparatus of claim 2, wherein each of the plurality of collection cavities is capable of holding between about 0.1 cm^3 and 0.5cm^3 of the powdered material.

8. The apparatus of claim 3, wherein said collection member comprises:

(i) a plurality of holes, said plurality of holes slidably engage-able with;

(ii) a plurality of plungers, each of said plurality of plungers comprising a tube, open at both ends, said filter affixed at the end of the tube that comes in proximity to the powdered material during collection and the other end of the tube in fluid communication with the vacuum source;

wherein the volume of each of the plurality of collection cavities is defined substantially by the volume from the aperture of its corresponding hole to the face of its corresponding plunger.

9. The apparatus of claim 8, wherein the filter is capable of excluding particles with an average particle size of between about 1μm and 1000μm.

10. The apparatus of claim 9, wherein the filter is capable of excluding particles with an average particle size of between about 1μm and 500μm.

11. The apparatus of claim 9, wherein the filter is capable of excluding particles with an average particle size of between about 10μm and 500μm.

12. The apparatus of claim 9, wherein the filter comprises at least one of a semi-rigid screen, a sieve, a collection of micro-tubes, a perforated ceramic, a perforated plastic, a perforated glass, a porous cermet, and a porous metal.

13. The apparatus of claim 9, wherein the plurality of plungers are affixed to and in fluid communication with a manifold, said manifold serving to establish fluid communication between each of the plurality of plungers and the vacuum source.

14. The apparatus of claim 13, wherein the manifold further comprises a plurality of valves, said plurality of valves configured such that fluid communication between the vacuum source and all or a sub-set of the plurality of collection cavities can be shut off.

15. The apparatus of claim 14, wherein the plurality of collection cavities are arranged in a matrix, and the sub-set comprises one or more rows, one or more columns, or combinations thereof of said matrix.

16. The apparatus of claim 13, wherein the relative position of each plunger within its corresponding hole is established by an adjustment mechanism configured to vary the distance between the manifold and the collection member.

17. The apparatus of claim 16, wherein each plunger is capable of displacing each of the plurality of measured quantities of the powdered material from the corresponding hole wherein said each plunger resides.

18. The apparatus of claim 16, wherein the adjustment mechanism comprises at least one of a lead screw and a pneumatic cylinder.

19. The apparatus of claim 14, further comprising a controller, said controller comprising:

(a) a plurality of solenoids for controlling the control valve and said plurality of valves;

(b) the vacuum source;

(c) a positive pressure source for delivering a positive pressure of a gas; and

(d) an associated logic configured to automatically control the plurality of solenoids based on a manual switch control, a pre-programmed algorithm, or both;

wherein the control valve, the plurality of valves, and combinations there of are used to control fluid communication between each of the collection cavities, via their respective inlets, and either the vacuum source or the positive pressure source.

20. The apparatus of claim 19, wherein the vacuum source is capable of producing both a high vacuum and a low vacuum, and the positive pressure source is capable of delivering both a high-pressure flow of the gas and a low-pressure flow of the gas.

21. The apparatus of claim 20, wherein the gas comprises at least one of air and an inert gas.

22. The apparatus of claims 19, further comprising a supply bin for holding the powdered material; said supply bin comprising:

(a) a powder compartment sized and shaped to accommodate a supply of the powdered material and the collection member when collecting the powdered material in the plurality of collection cavities therein; and

(b) a squeegee configured to remove at least a portion of the powdered material that protrudes beyond the aperture of each of the plurality of collection cavities, during collection, when the aperture of each of the plurality of collection cavities and the squeegee are moved across one another.

23. The apparatus of claim 22, configured such that the portion of the powdered material that protrudes beyond the aperture of each of the plurality of collection cavities, after removed by said squeegee, is returned into the powder compartment.

24. The apparatus of claim 23, further comprising a powder catch compartment configured to catch any of the powdered material that does not fall back into the powder compartment when the aperture of each of the plurality of collection cavities and the squeegee are moved across one another.

25. The apparatus of claim 19, wherein the collection member, the manifold, and the manual switch control are combined in a hand-held unit, said hand-held unit in electrical and fluid communication with the controller.

26. The apparatus of claim 19, further comprising an automated mechanism configured to collect the powdered material in all or the sub-set of the plurality of collection cavities, move the aperture of each of the plurality of collection cavities and the squeegee across one another, and deliver each of the plurality of measured quantities of the powdered solid, via the plurality of collection cavities, to a plurality of vessels corresponding to all or the sub-set of the plurality of collection cavities containing the powdered material.

27. The apparatus of claim 3, wherein at least one of the collection member and each of the plurality of collection cavities comprise an anti-static material.

28. The apparatus of claim 27, wherein the anti-static material comprises at least one of a plastic, a metal, a glass, and a ceramic.

29. The apparatus of claim 8, wherein the collection member further comprises a plurality of guides, each guide of said plurality of guides residing at the aperture of each of the plurality of collection cavities, each guide of said plurality of guides configured to aide in registration of its corresponding collection cavity with a receiving vessel.

30. The apparatus of claim 29, wherein the collection member further comprises an alignment guide, said alignment guide configured to aide in registration of the collection member with the multi-well vessel.

31. The apparatus of claim 5, capable of collecting each of the plurality of measured quantities of the powdered material to within about $\pm 0.1 cm^3$.

32. The apparatus of claim 5, capable of collecting each of the plurality of measured quantities of the powdered material to within about $\pm 0.005 cm^3$.

33. The apparatus of claim 5, capable of collecting each of the plurality of measured quantities of the powdered material to within about $\pm 0.001 cm^3$.

34. A method of collecting and dispensing a powdered material, the method comprising:

(a) collecting, substantially simultaneously, a plurality of measured quantities of the powdered material in a plurality of collection cavities, wherein each of said plurality of collection cavities is in fluid communication with, via an inlet within each cavity, a vacuum source; and

(b) dispensing, substantially simultaneously, the plurality of measured quantities of the powdered material by terminating, substantially simultaneously, fluid communication between each of said plurality of collection cavities and the vacuum source while each of the plurality of collection cavities is oriented such that gravity pulls each of the plurality of measured quantities of the powdered material out of each of the plurality of collection cavities;

wherein each of the plurality of collection cavities comprises a filter to substantially prevent said powdered material from entering its corresponding inlet.

35. The method of claim 34, wherein the volume of each of the plurality of collection cavities is dynamically adjusted during (a).

36. The method of claim 34, further comprising applying a positive pressure of a gas to each of said collection cavities, via the inlet within each cavity, to facilitate removal of each of the plurality of measured quantities of the powdered material therein.

37. The method of claim 36, wherein the gas comprises at least one of air and an inert gas.

38. The method of claim 34, wherein the plurality of collection cavities are configured on a collection member such that when the collection member is registered with a multi-well vessel, each cavity of the plurality of collection cavities is configured to dispense its corresponding quantity, of the plurality of measured quantities of powdered material, to a corresponding well of the multi-well vessel.

39. The method of claim 38, wherein the multi-well vessel comprises at least one of an 8-well format vessel, a 24-well format vessel, a 96-well format vessel, a 384-well format vessel, and a 1536-well format vessel.

40. The method of claim 34, wherein each of the plurality of collection cavities is capable of holding between about $0.005cm^3$ and $2cm^3$ of the powdered material.

41. The method of claim 34, wherein each of the plurality of collection cavities is capable of holding between about $0.01cm^3$ and $1cm^3$.

42. The method of claim 34, wherein each of the plurality of collection cavities is capable of holding between about $0.1cm^3$ and $0.5cm^3$ of the powdered material.

43. The method of claim 34, wherein the filter is capable of excluding particles with an average particle size of between about 1μm and 1000μm.

44. The method of claim 34, wherein the filter is capable of excluding particles with an average particle size of between about 1μm and 500μm.

45. The method of claim 34, wherein the filter is capable of excluding particles with an average particle size of between about 10μm and 500μm.

46. The method of claim 34, wherein a sub-set of the plurality of collection cavities are used to collect the powdered material during (a) and dispense the powdered material during (b).

47. The method of claim 46, wherein the plurality of collection cavities are arranged in a matrix, and the sub-set comprises one or more rows, one or more columns, or combinations thereof of the matrix.

48. The method of claim 34, further comprising moving a squeegee and the aperture of each of the plurality of collection cavities across each other, to remove at least a portion of the powdered material that protrudes beyond the aperture of each of the plurality of collection cavities, after (a) and before (b).

49. The method of claim 48, wherein the portion of the powdered material that is removed, by moving the squeegee and the aperture of each of the plurality of collection cavities across each other, is collected for reuse.

50. The method of claim 48, performed using a hand-held unit, said hand held unit comprising the plurality of collection cavities.

51. The method of claim 48, performed using an automated mechanism configured to collect the powdered material in all or the sub-set of the plurality of collection cavities, move the aperture of each of the plurality of collection cavities and the squeegee across one another, and deliver each of the plurality of measured quantities of the powdered solid, via the plurality of collection cavities, to a plurality of vessels corresponding to all or the sub-set of the plurality of collection cavities containing the powdered material.

52. The method of claim 40, wherein each of the plurality of collection cavities is capable of collecting each of the plurality of measured quantities of the powdered material to within about $\pm 0.1 cm^3$.

53. The method of claim 40, wherein each of the plurality of collection cavities is capable of collecting each of the plurality of measured quantities of the powdered material to within about $\pm 0.005 cm^3$.

54. The method of claim 40, wherein each of the plurality of collection cavities is capable of collecting each of the plurality of measured quantities of the powdered material to within about $\pm 0.001 cm^3$.

55. The method of claim 40, wherein the plurality of collection cavities is formed via deformation of a flexible membrane into a plurality of deformation cavities via at least a partial vacuum applied via each of said plurality of deformation cavities.

56. The method of claim 55, wherein said flexible membrane deforms to conform to interior surface of each of said plurality of deformation cavities, whereby the volume of each of said plurality of deformation cavities substantially defines the volume of the powdered material collected in the corresponding collection cavity formed therein.

57. The method of claim 55, wherein said flexible membrane deforms, but does not conform to the interior surface of each of said plurality of deformation cavities, whereby the volume of each of said plurality of collection cavities is defined substantially by the volume of the depression formed in the flexible membrane caused by deformation of said flexible membrane.

58. The method of claim 55, wherein upon release of said at least partial vacuum the flexible membrane reforms substantially to the shape it possessed prior to application of said at least partial vacuum, thereby expelling each of the individual quantities of the powdered material collected.